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Essays On Corporate Governance

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TWO ESSAYS ON CORPORATE GOVERNANCE

by

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ABSTRACT

This dissertation is composed by two essays that explore the changes in corporate governance around the passage of Sarbanes-Oxley (SOX) 2002.

In the first essay, I examine the relation between board structure and compensation as a bargaining game between the board and the CEO. Bargaining game theories describe an endogenous process of determining the structure of director and CEO compensation. The Sarbanes-Oxley Act (SOX) altered the equilibrium of power between the board and CEO by changing the monitoring role of the board. SOX essentially provides a natural experiment to test how a shock to the bargaining game alters the balance of power between directors and the CEO. Using the ratio of director compensation to CEO compensation to proxy for bargaining power, I find a significant increase following the passage of SOX, consistent with directors gaining bargaining advantage. Moreover, firms with strong shareholder rights exhibit even greater evidence of power shifting to the directors. Overall, the results suggest that directors gain more power relative to the CEO in determining compensation plans and strong shareholder rights help firms to align directors' incentives with those of shareholders.

In the second essay, I examine the relation between CEO compensation structure and acquirer returns. In the literature, researchers find that executive compensation structures influence corporate acquisition decisions. Equity-based executive compensation should reduce the non-value-maximizing behavior of acquiring managers. A series of corporate reforms such as SOX and the FASB

expensing rule affected the structure of CEO equity-based compensation. I find a significant increase in CEO restricted stock compensation and a significant decrease in CEO option-based compensation following these reforms. I also find that CEOs with strong managerial power are more likely to receive more restricted stock in their compensation package after the 2002 reforms. Finally, I find a significant positive relation between the restricted stock compensation of acquiring firm CEOs and abnormal stock returns after 2002. This provides empirical support on the effectiveness of the shift away from options towards restricted stock in executive compensation packages. Restricted stock is associated with better merger decisions.

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CHAPTER 1 INTRODUCTION

Congress passed the Sarbanes-Oxley Act of 2002 (SOX) with the intention of restoring public confidence after a series of corporate scandals around 2000-2001. In the first part of my dissertation, I examine the relation between board structure and compensation as a bargaining game between the board and the CEO. SOX altered the equilibrium of power between the board and CEO by changing the monitoring role of the board. Using the ratio of director compensation to CEO compensation to proxy for bargaining power, I find that directors gain more power relative to the CEO in determining compensation plans and strong shareholder rights help firms to align directors' incentives with those of shareholders. Moreover, firms with strong shareholder rights exhibit even greater evidence of power shifting to the directors.

In the second part, I examine the relation between CEO compensation structure and acquirer returns. In the literature, researchers find that Equity-based compensations influence managers' corporate acquisition decisions. I find a significant positive relation between the acquiring CEO restricted stock compensation and abnormal stock returns. This provides empirical support on the effectiveness of the shift away from options toward restricted stock in executive compensation packages. Finally, acquirers protected by more antitakeover provisions experience higher abnormal returns when their CEOs receive a greater proportion of their compensation from restricted stock and a smaller proportion from option grants.

CHAPTER 2 BARGAINING BETWEEN DIRECTORS AND CEOS: THE SOX EFFECT

2.1 Introduction

In the era of heightened awareness of corporate scandals, the role of the board of directors is coming under intense scrutiny. To restore public confidence, Congress passed the Sarbanes-Oxley Act of 2002 (SOX), which is viewed as the most far-reaching reform in corporate governance since the initial federal securities laws in 1933 and 1934 (Donaldson, 2003). One of its main objectives is to improve corporate governance by increasing the monitoring role of the board and strengthening the independence of the audit committee (Romano, 2005; Brown, 2006; Murray, 2006; Taylor, 2006). Pursuant to SOX, the NYSE and the NASDAQ required listed firms to have a majority of independent directors on their board. SOX also reduces the control of the CEO and the CFO over the finances by empowering the audit committee and accounting firms (Clark, 2002). Essentially, SOX breaks the power equilibrium between the CEO and the board by enhancing the internal controls of the board and by directly limiting the power of CEO.

However, the effect of this shift in power essentially becomes an empirical question. To address this, I study the association between CEO and director compensation. Bargaining game theories find that the process of determining compensation is best described as a bargaining game between the board and the CEO. They suggest that the more powerful party will influence the size and structure of

compensation in its own interest. Thus, weaker boards pay more to their CEOs, since the CEO is in a better bargaining position.

More specifically, Hermalin and Weisbach (1998) model the bargaining game between the directors and CEO, where the powerful CEO influences the selection of the board of directors and his own pay. Bebchuk et al. (2002) argue that the CEO's managerial power over the board of directors results in greater CEO compensation. Ryan and Wiggins (2004) suggest that the board of directors also exerts influence over the CEO to determine their compensation. They show that board compensation deviates from the optimal contract when the CEO is more powerful than the board. In my paper, I extend this literature by analyzing the dynamic shifts in the bargaining power between the CEO and the board surrounding the SOX period.

Specifically, I examine changes in director and CEO compensation from 2000 to 2004 using data from ExecuComp. I find that both the size and the structure of director and CEO compensation significantly change over this period. Median pay per director is increased by more than $35,000 from 2000 to 2004, an increase of almost 57%. The median CEO compensation is increased by $573,190, an increase of 23%. The median percentage of equity-based compensation for the CEO rose from 45% in 2000 to 57% in 2002 and dropped to 45% in 2004. The percentage of equity-based compensation for directors increases by 3% on average.

To examine whether the changes in director and CEO compensation were caused by changes in the bargaining power of each party, I use the ratio of director compensation to CEO compensation. Essentially, I use this ratio as a proxy to

measure the bargaining power. If this ratio significantly increases after Sarbanes-Oxley, it suggests that directors gain more bargaining power over CEOs during this period, as their compensation increases relative to the CEOs. I also analyze the determinants of the compensation levels and explore how measures of managerial power and board independence explain the variation in the bargaining power proxy.

I find a significant increase in the ratio of director to CEO compensation in the post-SOX period, which is consistent with bargaining power shifting to the board of directors after SOX. I also find that CEOs who also serve as chair of the board (duality) are more likely to receive greater compensation, relative to that of the directors. This is consistent with more powerful CEOs being in a better bargaining position relative to the board. Similarly, CEOs in strong shareholder rights firms, where CEO power would be reduced, receive less compensation relative to directors than CEOs in weak shareholder rights firms. Directors in strong shareholder rights firms receive more equity-based compensation after SOX. In addition, I find that firms with older CEOs and firms with higher CEO ownership and higher director ownership are less likely to increase the percentage of equity compensation of CEO total compensation. Such compensation has drawn considerable scrutiny since the collapse of Enron. Overall, the results are consistent with the expectation that the increase in the monitoring role of the board leads to an increase in the board bargaining power over the CEO.

This study contributes to the empirical literature that examines the bargaining game between the CEO and the board. The traditional view is that directors want to establish an optimal incentive compensation contract to counteract the barriers to effective governance. Basically, the board of directors seeks to minimize the agency costs that exist between management and shareholders, with the compensation scheme being designed to serve this objective. However, empirical evidence indicates that CEOs can exert influence on their own pay to receive compensation in excess of the level that would be optimal for shareholders. In practice, CEO compensation can deviate significantly from those suggested by optimal contracting. The results of my tests support the idea that CEOs influence their own compensation as do directors.

My findings may be useful to regulators since SOX and its implementation rules adopted by the NYSE and NASDAQ dramatically increase the compliance cost of firms. The effectiveness of SOX in improving corporate governance has been questioned. My paper shows that the board of directors gains more power over CEO to win concessions in negotiations after SOX.

My paper also contributes to the literature that examines the relation between CEO compensation and CEO power. Hallock (1997) finds that CEOs receive greater compensation when the board is less independent. Core et al. (1999) find that CEOs who are also chair of the board receive greater compensation. Cyert et al. (2002) also find that CEOs with influence over the board receive higher pay. They also show that boards which are paid with high amounts of equity compensation tend to

reduce the non-salary compensation awarded to the CEO. However, none of these papers considers the dynamics of compensation structure and how the bargaining power between the CEO and the board is altered to react to changing corporate governance.

The remainder of the paper is organized as follows. Section 2 describes the background on the Sarbanes-Oxley Act. Section 3 reviews the extant literature regarding agency problems and the relation between the board and CEO compensation. Section 4 develops the hypotheses. Section 5 describes the sample and data selection. Section 6 presents results. Section 7 concludes the main findings and offers implications for future study.

2.2 Background on the Sarbanes-Oxley Act

"In response to a loss of confidence among American investors reminiscent of the Great Depression, President George W. Bush signed the Sarbanes-Oxley Act into law on July 30, 2002" Welytok Sarbanes-Oxley for Dummies (2006, p.9)[1]

The recent flurry of corporate scandals, such as Enron, WorldCom, Sunbeam and Global Crossing, causes great concerns about the efficacy of corporate governance in monitoring managerial performance. CEOs of the fraudulent firms had the power to manipulate the financial reporting system and to influence the board and its various oversight committees (Gordon, 2002). To restore public confidence, Sarbanes-Oxley was signed into law in 2002. SEC Commissioner, Harvey Goldschmid, referred to SOX as the "most sweeping reform since the Depression-era

[1] See Securities Act Rel. 8220 (April 9, 2003).

Securities Laws" (Murray, 2002) and President Bush called SOX "the most far-reaching reforms of American business practice since the time of Franklin Delano Roosevelt" (Bumiller, 2002).

SOX imposes substantial new requirements on corporate governance, financial disclosure, and the practice of public accounting. Numerous studies (Rezaee, 2002; Ribsten, 2002; Cunningham, 2003; Coates, 2007) have indicated the main objectives of SOX were: 1) to improve the reliability of financial disclosure, 2) to increase the independence of the audit committee, 3) to enhance the gatekeeper function of the outside accounting firms.

The SEC implemented the provisions of SOX by adopting rules compliant to them. By the end of 2003, the SEC directed the NYSE and the NASDAQ to adopt implementation rules for almost all provisions of SOX. The major rules related to corporate governance include[2]: 1) if a firm is listed on NYSE or NASDAQ, then independent directors should make up the majority of its board of directors, 2) the director should be "independent" in a stricter sense, which according to the Act, means that the independent director should not be an "affiliated person" of the corporation or any subsidiary and may receive no more than a director's fee for services. 3) the compensation and nominating/governance committees must be entirely composed by independent directors. 4) the minimum size of the audit committee is three members and all of them must be independent directors. In

[2] For more details on the Sarbanes-Oxley Act of 2002 and the governance provisions of the NYSE and NASDAQ, please refer to Public Law 107-204-July 30, 2002, The Practitioner's Guide to the Sarbanes-Oxley Act, the SEC Release No. 34-48745, File Nos. SR-NYSE-2002-33, SR-NASD-2002-77, SR-NASD-2002-80, SR-NASD-2002-138, SR-NASD-2002-139, and SR-NASD-2002-141. For summaries, please refer to Engel et al. (2005) and Chhaochharia et al. (2007)

addition, the audit committee must consist entirely of financially literate individuals. One member of the audit committee must be a financial expert. Otherwise, the company must disclose whether it has such an expert, and if not, the reasons.

The CEO usually negotiates with existing directors to nominate a new director to fill the vacancy on the board. In Hermalin and Weisbach (1998), they show that the board nomination process is partially controlled by the CEO and the monitoring effectiveness is determined by its independence. The SEC rules strengthen the independence of the board, especially the compensation and nominating committee, suggesting that the CEO may exert less influence on the board selection and compensation decisions after the passage of SOX. The changes in the structure and size of director and CEO compensation will shed the light on the shift of bargaining power between the board and CEO.

2.3 Literature review

The separation of ownership and management can lead to agency problems. The board of directors should monitor the firm's managers to reduce agency conflicts (Fama and Jensen, 1983). Hermalin and Weisbach (1998) show that board monitoring efficiency declines as the CEO's power outweighs that of directors. Directors retain a CEO only if he or she is valuable to the firm. However, a valuable CEO has more bargaining power to negotiate with the existing directors who will fill vacancies on the board. In their model, the CEO can nominate new directors who are indebted for their appointment. The CEO's bargaining power over the selection process weakens the board independence.

Empirical evidence also suggests that CEOs have the power to influence board decisions. Hermalin and Weisbach (1988) find that the proportion of outside directors decreases with CEO tenure. Blanchard et al. (1994) find that firms increase CEO compensation when they receive a cash windfall. Yermack (1995) finds evidence of suboptimal CEO compensation with respect to stock options. He shows that stock option incentives are increased when accounting earnings contain a large amount of "noise" and firms provide option incentives to their CEOs because they face liquidity constraints. Yermack (1997) finds that CEOs receive more stock options before good corporate news. Shivdasani and Yermack (1999) also find that firms have fewer outside directors and more gray directors when the CEO affects the director selection process. Jensen (1993) argues that CEOs control the board meeting agenda and the information that the board has about the company as well as obstruct the selection of directors who disagree with them.

Bebchuk et al. (2002) and Bebchuk and Fried (2003) examine the impact of managerial power on CEO compensation. They find that CEOs use their power to extract more rent in the form of compensation. They argue that the likelihood of adopting a compensation arrangement that is favorable to executives but suboptimal for shareholders will depend on the power that the CEO has to influence his or her own pay. They show that the large body of empirical work on executive compensation supports the managerial power theory rather than traditional optimal contracting approach which assumes that executive compensation is devised to maximize shareholder value.

Ryan and Wiggins (2004) suggest that the party with the bargaining advantage, either the board or CEOs, will receive greater compensation. They extend the bargaining model of Hermalin and Weisbach (1998) to show that directors explicitly or implicitly negotiate their own pay. The observed director and CEO compensation is the result of an endogenous process over a bargaining game between the two parties. If the board has power over the CEO, both director and CEO compensation are more closely aligned with shareholder's wealth. If the CEO's power over the board increases, compensation provides weaker incentives to monitor.

The theoretical model and the related empirical findings discussed above suggest that 1) compensation is suboptimal, and does not necessarily maximize shareholders wealth; 2) compensation is the outcome of a bargaining game between the board and the CEO; 3) the more powerful party in this bargaining game, either CEO or the board, will influence the size and structure of compensation in its own interest; 4) compensation provides stronger incentives to monitor as the board gains power over CEO.

2.4 Hypotheses

The main purpose of this paper is to investigate whether SOX shifts the bargaining advantage to the board by examining the relation between director and CEO compensation. A weaker board should result in greater CEO compensation. However, a stronger board should be able to better bargain with the CEO thus resulting in less compensation for the CEO. Director compensation, relative to CEO compensation, could remain unchanged if CEOs retains their power after SOX

implying SOX was ineffective in achieving its goals of altering the balance of bargaining power between CEO and the board; it could increase if the bargaining power shifts to the board after SOX; or it could decreases if the bargaining power shifts to CEOs after SOX. I use the ratio of director compensation to CEO compensation and the ratio of director compensation to total director and CEO compensation to proxy for the bargaining power, which leads to the following hypothesis:

Hypothesis 1: The ratio of director compensation to CEO compensation should significantly increase after the passage of SOX.

Hypothesis 2: The ratio of director compensation to total director and CEO compensation should increase after the passage of SOX.

If the board has the bargaining advantage over the CEO in determining the compensation package, director compensation will provide stronger incentives to monitor the CEO (Ryan and Wiggins, 2002). Maug (1997) finds that director compensation packages with stock or options improve directors' incentive to monitor the manager's performance. Perry (2000) shows a positive relation between CEO turnover and compensation packages with stock or options for outside directors. Yermack (2004) shows director compensation can be used to motivate directors to monitor. Becher et al. (2006) show that increased equity-based compensation of bank directors is the result of the need for internal monitoring following deregulation. If the board has more power to negotiate its own pay after SOX, I expect to see an increase

in the percentage of equity-based compensation in total director compensation. The previous studies in director compensations lead to the third hypothesis:

Hypothesis 3: The equity-based compensation as a proportion of total director compensation should significantly increase after the passage of SOX.

Gompers, Ishii, and Metrick (2003) construct a governance index to proxy for the balance of power between shareholders and managers in a corporation using the incidence of 24 governance rules. The index is constructed using charter provisions, by law provisions, other firm-level rules, and state takeover laws. As Gompers et al. (2003) note, the power-sharing relationship between shareholders and managers is defined by the rules of corporate governance. Firms with low index values have the lowest managerial power or strongest shareholder rights and firms with high index values have the highest management power or weakest shareholder rights. Firms with stronger managerial power (or weak shareholder rights) are more likely to be affected by SOX, since regulators were likely targeting such firms with governance reforms. I use this index to explore whether the boards of firms with high management power show stronger shifts in bargaining power.

Hypothesis 4: Following SOX, firms with weak shareholder rights should experience a greater shift in bargaining power towards directors than firms with strong shareholder rights.

2.5 Sample and Summary Statistics

I collect director and CEO compensation data from Standard & Poor's (S&P) ExecuComp database. The ExecuComp database reports all non-employee

director compensation and CEO compensation from 2000-2004 for the S&P 500, S&P Midcap 400, and S&P Smallcap 600. Table 1 shows the descriptive statistics of the sample data. I collect additional data for all explanatory variables from CRSP, Compustat, and IRRC.

2.5.1 Variable definitions

The non-employee director compensation is composed of an annual retainer, fees for attending meetings and equity-based incentives, including stock options and shares of stock. I follow Mehran and Tracy (2001) to use a modified Black-Scholes model to value the stock options assuming firms grant options at the money and with a ten-year maturity. I value the stock grants by multiplying the number of shares by the closing stock price from the preceding calendar year.

Total director cash compensation is the sum of total meeting fees and the annual retainer. Total director equity compensation is the sum of the value of the stock options granted and stock shares granted. Total director compensation is the sum of total cash compensation and equity compensation. The percentage of EBC is total director equity compensation divided by total director compensation. This percentage represents the relative importance of incentive compensation in director total compensation.

Total CEO cash compensation includes salary and bonus. Total CEO equity compensation is the sum of the value of stock options granted and the value of restricted stock. The percentage of EBC is total CEO equity compensation divided by total CEO compensation. Total CEO compensation is calculated as the sum of salary,

bonus, other annual compensation, value of restricted stock grants, value of stock options granted, long-term incentive payouts, and all other compensation paid to CEO.

I obtain board of director ownership, the percentage of independent directors and the governance index from IRRC. Gompers, Ishii and Metrick (2003) construct a "Governance Index" based on the incidence of twenty-four governance rules to proxy for the balance of power between shareholders and managers. Firms with lower governance index have stronger shareholder rights and weaker manager protections. Firms with higher governance index have weaker shareholder rights and stronger manager power. I divide the sample into two groups based on whether they are above or below the median for the governance index. The strong shareholder rights group (low G index group) includes companies with an index lower than the median of the governance index and the weak shareholder rights companies (high G index group) are those with an index greater than the median. In strong shareholder rights group, the board is more likely to gain bargaining power over the CEO, resulting in a more obvious shift in the size and structure of directors and the CEO compensation. I expect to observe the difference in bargaining power shifting after SOX between these two groups.

2.5.2 Summary statistics

The means, medians and standard deviations of director and CEO compensation are presented in Table 1[3]. Over the sample period, the average cash

[3] Table 1 reports the inflation-adjusted compensation figures. All dollar values are adjusted to constant 2004 dollars using the CPI index.

compensation for directors increases from $28.41 thousand in 2000 to $38.91 thousand in 2004. Average director EBC increases from 50.65% in 2000 to 58.19% in 2004. I note that the mean of the director equity compensation declines from $93.06 thousand in 2000 to $73.63 thousand in 2002, and then increases to $90.12 thousand in 2004. However, the median equity-based compensation for directors increases from $35.86 thousands to $56.18 thousands steadily. I find similar trends for the average of total director compensation, a drop by 2002 and an increase afterward. Average director compensation declines from $123.54 thousands in 2000 to $105.41 thousand in 2002 and then bounces back to $129.53 thousand in 2004. The median total compensation for directors also increases from $69.35 thousands in 2000 to $98.90 thousands in 2004. It is clear that the trends of total director compensation are driven by changes in director equity compensation over the sample window.

I also find changes in CEO compensation. Average CEO cash compensation increases from $1.47 million in 2000 to $1.77 million in 2004. However, the average value of equity compensation declines throughout the sample period from $5.32 million in 2000 to $2.92 million in 2004. Therefore, the average total compensation also drops from $7.33 million in 2000 to $5.20 million in 2004. The average percentage of equity compensation in total compensation increases from 43.46% in 2000 to 55.94% in 2002 and declines to 41.82% in 2004.

There are also changes in the ratio of director compensation to CEO compensation. The average ratio increases throughout the whole sample period from 2.88% in 2000 to 3.69% in 2004, consistent with directors gaining bargaining power

relative to CEOs. Overall, I find the average firm has changed its director and CEO compensation structure after the passage of SOX.

2.6 Results

2.6.1 Director versus CEO

In Table 2, I examine how director versus CEO compensation changed around the passage of SOX (2000-2004). Total cash compensation of both directors and the CEO increases significantly over the sample period. However, the changes in CEO equity compensation differ from those paid to the directors. CEO equity compensation decreases dramatically from 2000 to 2004. Total equity compensation paid to directors remains relatively constant over the sample period. The percentage of EBC of the CEO significantly drops after SOX. Both the ratio of director compensation to CEO compensation and the ratio of director compensation to total compensation significantly increase over this period. Thus, there are great changes in the size and structure of director and CEO compensation in the post-SOX period. Directors and CEOs both receive more cash compensation after SOX. Firms pay less equity compensation to CEOs. Directors, relative to the CEO, receive greater pay after the scandals. This is consistent with SOX effectively tilting bargaining power toward the directors.

2.6.2 Effects of SOX on bargaining power

Next, I employ a panel model based on my cross-sectional time-series data after controlling for potential determinants of compensation.[4] I use the ratio of

[4] Even if it is possible to use ordinary multiple regression on panel data, the estimates of coefficients derived from regression may be biased because of the unobserved variables. Panel data can control for some of these unobserved effects.

director compensation to CEO compensation and the ratio of director compensation to total compensation to proxy for the bargaining power between CEO and the board since the literature suggests changes in the size of compensation can be used to reveal bargaining power. I analyze the determinants of the ratio of director compensation to CEO compensation and to total compensation and the percentage of EBC for the board. Following Becher, Campbell and Frye (2007), I use a random effects regression model. This model allows me to control for unobservable or neglected firm-specific effects that may be correlated with two proxy ratios or other independent variables.[5] Hausman (1978) provides strong evidence that the unobserved effects are present in common econometric specifications. By choosing a random effect model, I control the endogeneity derived both from the conventional simultaneity and from the neglected firm characteristics (Cornwell and Trumbull 1994).

Soxdummy equals one for data after SOX. This is used to determine if bargaining power shifts after the passage of SOX. I include control variables used in prior literature to explain the proxy for bargaining power and the percentage of EBC for directors[6]. Larger firms and firms with higher growth opportunities are more likely to have greater agency problems. I use the governance index (Gompers, Ishii, and Metrick(2003)) to proxy for managerial power. Firms with strong managerial power will pay their CEO more compensation than firms with weak managerial power.

[5] It is better to use fixed effects model when the unobserved variables differ between firms but are constant over time. A random effects model needs to be employed when some of the omitted variables vary between firms but are fixed over time and others may be fixed between firms but vary over time. In this case, a random effect model gives more efficient estimators. The fixed effects model is a special case of the random effects model.

[6] In the literature, firm size, leverage, growth opportunities are often used to control agency conflicts between shareholders and managers. For more details, please refer to Smith and Watts (1992), Gaver and Gaver (1993), Jensen(1986) and Stulz (1990), John and John (1993).

In such firms, directors may be less likely to overturn poor compensation decisions. A firm with a low governance index is assumed to have good governance while a firm with a high governance index is assumed to have bad governance. Good governance firms are expected to use more equity-based incentives in their director compensation structure than bad governance firms.

Following Linck et al. (2006), Boone et al. (2007), Hermalin and Weisbach (1998) and Ryan and Wiggins (2004), CEO age, CEO ownership and CEO duality are included as proxies for CEO bargaining power. Linck et al. (2006) and Boone et al. (2007) find that CEO age and CEO ownership are negatively correlated with board independence. Hermalin and Wesbach (1998) argue that firms are more likely to add insiders to the board as a part of the succession process when the CEO gets older and approaches retirement. CEO duality is equal to one when the CEO is also the Chair of the board. Ryan and Wiggins (2004) use CEO duality as another proxy for CEO power. They argue that a CEO who also chairs the board exerts more influence on the board of directors.[7] Boone at el. (2007) also use outside directors' stock ownership to measure the constraints on the CEO's influence. They find that board independence is positively correlated to constraints on the CEO's influence.

The results from random effects model are presented in Table 3. The first column is for the model in which the dependent variable is the ratio of director compensation to CEO compensation. The second column is for the model in which the dependent

[7] In Ryan and Wiggins (2004), they cite previous literature to support the use of CEO duality as proxy for power. For example, Pi and Timme (1993) find CEO duality correlate negatively with ownership for commercial banks. However, Brickley et al. (1997) find CEO duality makes CEO hold more stock. Dayha et al. (2002) find CEO turnover increases and firm stock price performance improves after these firms separate CEOs and board chairs and also have at least three independent directors.

variable is the ratio of director compensation to the total compensation of director and CEO. The third column is for the model in which the dependent variable is the percentage of EBC for directors. Results are for the period over 2000 to 2004.

2.6.2.1 Analysis of Soxdummy

Directors have significantly higher compensation relative to CEO compensation after the passage of SOX as Soxdummy is significantly positive. This result suggests that the bargaining advantage shifts to the directors and that CEOs receive relatively less total compensation after Sarbanes-Oxley. The ratio of director compensation to total compensation (director plus CEO compensation) supports this finding of bargaining power shifting toward directors since the Soxdummy is also significantly positively associated with the ratio. Soxdummy is not significant for director EBC, indicating that directors do not receive significantly higher proportions of equity-based compensation after SOX.

2.6.2.2 Control variables related to director and CEO power

Power control variables are also important. The governance index is negatively related to the ratio of director compensation to CEO compensation and the ratio of director compensation to director compensation and CEO compensation. Firms with high governance index values have lower ratios of director to CEO compensation and to total director and CEO compensation, consistent with the CEO being more powerful and increasing his relative compensation. The CEO duality dummy is significantly negatively related to the ratios of director compensation to CEO compensation and to director and CEO compensation. A CEO who also chairs

the board has more power to influence the compensation process and director nominations, resulting in higher relative CEO compensation.

The age of CEO is significantly negatively related to the percentage of EBC for the board which is consistent with Hermalin and Weisbach (1998). In their model, older CEOs are nearer to retirement and such firms have less independent boards. A less independent board will prefer to receive less incentive compensation and also will be more difficult to bargain with CEOs, which leads to a lower percentage of equity based compensation for the board. The governance index is negative and statistically significant for the percentage of EBC in the director compensation. This is consistent with the notion that a higher governance index implies that greater managerial power results in a lower percentage of equity incentives in director compensation structures.

The percentage of independent directors on the board is positively related to the percentage of EBC for the board. More outside directors increases the bargaining power of directors, suggesting more independent boards would use more incentives in their compensation contracts. Directors with higher ownership are associated with significantly lower levels of EBC. This may indicate that firms with higher director ownership may not need additional incentives in the form of EBC as director stock ownership itself can serve to align shareholder and director interests.

2.6.2.3 Other control variables

Other control variables are also significant. For example, firm size is significantly negatively correlated with the ratios of director compensation to CEO

compensation and to director and CEO compensation. This suggests larger firms pay CEOs, relative to directors, more compensation than small firms.

Debt-to-assets (leverage) is significantly negatively related to the use of EBC in director compensation. Jensen (1986) and Stulz (1990) suggest that high leverage may prevent managers from taking poor projects, which makes EBC less necessary. Firm size is statistically significant and positive in explaining the percentage of EBC in the director compensation. This suggests larger firms are more difficult to monitor and may need more equity-based incentives to align the director's interest with shareholders'.

The findings in Table 3 are consistent with my expectations that 1) directors relative to the CEO gain greater compensation after SOX, indicating the bargaining power shifting; 2) directors receive greater proportion of total compensation (director plus CEO compensation) after SOX, consistent with the expectation that directors gain more power than the CEO after SOX; 3) directors do not show significant evidence of equity-based incentives increasing after SOX; 4) overall, the estimates of the control variables are consistent with existing literatures.

2.6.3 Difference between firms with strong and weak shareholder rights

In Table 4, I compare the changes in compensation for strong shareholder rights companies and weak shareholder rights companies. Total compensation for directors of both strong and weak shareholder rights companies significantly increase from 2000 to 2004. However, only strong shareholder companies show a significant decrease in CEO total compensation. The ratio of director compensation to CEO

compensation and the ratio of director compensation to total director and CEO compensation do not significantly change for weak shareholder rights companies, but significantly increase for strong shareholder companies.

I use the same control variables to run the panel data for the two subgroups. Tables 5 and 6 report the results for weak shareholder rights companies and strong shareholder rights companies, respectively. The major difference between these two groups is the coefficient of Soxdummy. For the strong shareholder rights companies, in the models which the ratio of director compensation to CEO compensation and to director plus CEO compensation are the dependent variables, Soxdummy is significantly positive over the sample period. However, for weak shareholder companies, Soxdummy is not significant in the same models. This somewhat surprising result suggests that SOX may not have had the intended effect of reforming governance at firms with weak shareholder controls. SOX appears to have had a greater effect on firms with "good" governance.

The regression results presented in Tables 5 and 6 show directors in strong shareholder companies receive more incentive-based pay as a percentage of total compensation after SOX. This suggests that directors in firms with strong shareholder rights gain more power over the CEO to influence the compensation composition in the post-SOX period than directors in firms with weak shareholder rights. It may imply that CEOs in weak shareholder rights firms still retain strong power to bargain the compensation package with directors in their own interest after the passage of SOX.

2.6.4 Robustness of Results

For a robustness check to my random effects models, I run the same data in pooled OLS models[8]. The results are qualitatively similar to those reported. I also run tobit models on the same data[9]. For the percentage of equity incentives, I use the natural log of one plus the percentage of EBC for both the directors as alternative dependent variable. Moreover, I employ probit models to estimate the effect of director option grants on the same data set of explanatory variables by defining a new dummy variable as the dependent variable. Director option dummy equals one if directors get options, zero otherwise. I also drop 2002 data from the sample and run the previous regression. For all these alternative tests, the results are qualitatively similar to those reported.

To further verify the random effect models, I examine the predicted values. Less than two percent of the predicted values are less than zero when the ratio of director compensation to CEO compensation is the dependent variable and none are greater than one. For the percentage of EBC for both the director and the CEO, none of the predicted values are less than -1 or greater than 1.

As another robustness check for whether noncompliance and compliance with the SOX rules better explain the bargaining power shift than corporate governance index. I define the compliant firms as those with more than 50% independent directors in the board before SOX and non-complying firms as those with

[8] The random effects estimates will be close to the pooled OLS estimates when the omitted variable is relatively unimportant.

[9] I use the tobit model to explore the robustness of my random effects model because a nontrivial fraction of the firms did not pay the equity compensation to their directors. The equity-based compensation of directors is comprised of a nontrivial fraction of zero value and a pattern of continuously distributed positive values. A tobit model is used to control for censoring at zero.

less than 50% independent directors before SOX. Non-complying firms are more likely to be targeted by SOX regulations. I separate the sample into complying firms and non-complying firms and run the regression on the same specifications. The test results are consistent with those from firms with strong and weak managerial power. The result supports the notion that firms with strong shareholder power act as they should to the passage of SOX to further reduce the CEO power.

2.7 Conclusion

This paper examines the dynamic change of bargaining power between the board and the CEO following changes in the securities laws regulating corporate governance. I seek to investigate the importance of the enhanced monitoring role of the board in the negotiation process of determining the compensation plans. Specifically, I examine changes in the size and structure of director and CEO compensation around the passage of SOX, which represents a time period of significant changes in corporate governance. SOX empowers the board to monitor the CEO. SOX breaks the equilibrium of the balance of power between the CEO and the board, suggesting a shift in the bargaining advantages between the CEO and the board.

I find that directors, relative to the CEO, receive more compensation after the improvement in the monitoring role of directors caused by Sarbanes-Oxley. I also find that directors receive significant increases in equity-based compensation following SOX, which should increase their incentives to monitor management. These findings suggest that directors have greater bargaining power over the CEO

when SOX and the accompanying changes in the exchange rules impose stricter requirements on the internal controls of the board of directors.

I also find that firms with strong shareholder rights exhibit greater bargaining power shifts toward the board. This suggests SOX may not have effectively altered governance structures at firms with weak shareholder rights. It may imply that CEOs at firms with weak shareholder rights retain the power to resist the changes in their compensation imposed by the new reforms.

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Table 2.1 Structure of Director and CEO Compensation by Year

Year	2000	2001	2002	2003	2004
Number of Companies	1,792	1,654	1,614	1,691	1,695
Panel A: Board of director Compensation					
Annual Retainer					
Mean	20.50	21.73	27.06	26.77	27.62
Median	21.23	21.33	26.25	25.67	25
Standard deviation	15.39	15.58	19.38	17.25	18.35
Total Meeting Fees					
Mean	7.91	7.69	7.89	8.80	9.56
Median	6.58	6.40	7.35	7.70	8.13
Standard deviation	8.14	7.82	7.94	8.49	10.80
Total Cash Compensation					
Mean	28.41	29.42	32.81	35.13	38.91
Median	27.42	28.27	31.50	33.37	36.25
Standard deviation	17.27	16.79	18.44	18.46	20.61
Total Equity Compensation					
Mean	93.06	85.14	73.63	75.03	90.12
Median	35.86	41.84	45.20	47.61	56.18
Standard deviation	237.03	148.81	121.84	104.08	138.83
Total Compensation					
Mean	123.54	116.44	105.41	110.96	129.53
Median	69.35	76.78	77.16	84.81	98.90
Standard deviation	236.82	148.48	121.61	105.97	140.84
% EBC					
Mean	50.65%	53.70%	53.71%	53.87%	58.19%
Median	54.30%	57.65%	58.06%	58.00%	59.26%
Standard deviation	32.46%	31.73%	30.32%	27.83%	27.82%
Panel B: CEO Compensation					
Total Cash Compensation					
Mean	1470.21	1391.93	1530.69	1615.78	1767.23
Median	987.28	940.87	1112.83	1083.35	1228.38
Standard deviation	1746.42	1867.72	1497.97	1925.45	2015.51

Year	2000	2001	2002	2003	2004
Total Equity Compensation					
Mean	5319.431	4848.16	4164.26	2579.21	2918.90
Median	1050.747	1248.04	1937.65	1026.35	1236.28
Standard deviation	22550.06	16591.20	7548.88	4747.37	5782.13
Total Compensation					
Mean	7332.81	6787.85	6132.39	4690.21	5204.09
Median	2680.48	2718.02	3563.26	2591.79	3016.70
Standard deviation	23295.83	17485.78	8500.34	6252.28	7172.39
% EBC					
Mean	43.46	47.45	55.94	40.88	41.82
Median	44.96	51.91	57.05	43.14	45.45
Standard deviation	31.78	31.86	22.96	29.00	28.53
Panel C: Director Compensation *vs.* CEO Compensation					
Dir/CEO					
Mean	2.88%	3.04%	3.24%	3.57%	3.69%
Median	1.98%	2.07%	2.18%	2.60%	2.54%
Standard deviation	3.46%	3.79%	4.02%	3.54%	4.91%

NOTE: This table reports descriptive statistics on board of director compensation by year. All data are from *ExecuComp*. All dollar values are reported in thousands of constant 2004 dollars using the CPI index. Total meeting fees assumes the director attended all board meetings. Total cash compensation is the sum of the total meeting fees and the annual retainer. Total equity compensation is the sum of value of the stock options granted and stock shares granted. Total compensation is the sum of total cash compensation and total equity compensation. The percentage of EBC is the total equity compensation divided by the total compensation. Dir/CEO is the ratio of director total compensation to CEO total compensation.

Table 2.2 Differences between Pre-Sox Compensations and Post-Sox Compensations

	Director	CEO
Total Cash Compensation		
Changes	11.79***	484.02***
p-value	0.00	0.00
Total Equity Compensation		
Changes	5.25	-1539.53***
p-value	0.30	0.00
Total Compensation		
Changes	16.75***	-986.87**
p-value	0.00	0.02
% EBC		
Changes	0.12%	-5.41%***
p-value	0.91	0.00
Director/CEO		
Changes	2.29%**	
p-value	0.04	
Director/(Director+CEO)		
Changes	2.66%**	
P-value	0.02	

NOTE: This table reports means for changes of various measures of director compensation and CEO compensation over year 2000-2004. All data are from *ExecuComp*. The *p*-value reports the significance of the difference between pre-Sox and Post-Sox. All dollar values are reported in thousands. Total meeting fees assumes the director attended all board meetings. Total cash compensation is the sum of the total meeting fees and the annual retainer. Total equity compensation is the sum of value of the stock options granted and stock shares granted. Total compensation is the sum of total cash compensation and total equity compensation. The percentage of EBC is total equity compensation divided by total compensation. Dir/CEO is the ratio of director total compensation to CEO total compensation. Director/(Director+CEO) is the ratio of director compensation to the total of director and CEO compensation. Asterisks indicate significance at the 0.01 (***), 0.05 (**), and 0.10 (*) levels.

Table 2.3 SOX Effect on All Companies

	Determinants of DCC (All Companies)	Determinants of DTT (All Companies)	Determinants of the % of Director EBC (All Companies)
Constant	0.098***	0.092***	0.821***
	(9.98)	(16.66)	(15.36)
CEO Age	0.000	-0.000	-0.003***
	(0.25)	(-0.19)	(-3.51)
Market-to-Book	0.000	0.000	0.000
	(0.33)	(0.60)	(0.19)
Leverage	0.006	0.003	-0.142***
	(1.20)	(1.09)	(-4.55)
Size	-0.017***	-0.015***	-0.009
	(-14.17)	(-19.60)	(-1.24)
G Index	-0.001***	-0.001***	-0.013***
	(-3.33)	(-4.23)	(-6.53)
% of Independent	0.002	-0.001	0.066**
Directors	(0.34)	(-0.19)	(1.99)
Director Ownership	-0.002	-0.001	-0.096***
	(-0.42)	(-0.49)	(-3.62)
CEO Duality	-0.006**	-0.005***	0.017
	(-2.44)	(-3.52)	(1.11)
CEO Ownership	-0.003	-0.001	0.100
	(-0.19)	(-0.12)	(0.94)
Soxdummy	0.005***	0.004***	0.013
	(2.77)	(3.53)	(1.19)
Wald χ^2	276.15***	329.26***	110.21***
Observations	3,126	3,126	3,126

NOTE. - This table reports results from random effects models. The dependent variables are the ratio of Director compensation to CEO compensation (DCC) and the ratio of Director compensation to the total compensation of director and CEO (DTT). The percentage of EBC is the total equity compensation divided by the total compensation. CEO duality dummy equals one if CEO is also the chairman. The market-to-book is the ratio of the firm's market value to its book value. Leverage is defined as total debt divided by total assets. Size is the natural log of total assets. SOX dummy equals one for post-Sox years (2002-2004). *T*-statistics are in parentheses. Asterisks indicate significance at the 0.01 (***), 0.05 (**), and 0.10 (*) levels.

Table 2.4 Differences between Compensation Structure of Strong Shareholder Rights Companies and those of Weak Shareholder Rights companies

	Weak Shareholder Rights		Strong Shareholder Rights	
	Director	CEO	Director	CEO
Total Cash Compensation				
Changes	11.97***	536.16***	11.06***	479.44***
p-value	0.00	0.00	0.00	0.00
Total Equity Compensation				
Changes	-0.39	-827.00***	15.46	-2543.93***
p-value	0.94	0.01	0.21	0.01
Total Compensation				
Changes	11.35**	-269.26	25.77**	-1914.26*
p-value	0.03	0.43	0.04	0.07
% EBC				
Changes	0.37%	-6.04%***	2.01%	-3.96%**
p-value	0.78	0.00	0.26	0.02
Director/CEO				
Changes	1.89%		2.81%***	
p-value	0.19		0.00	
Director/(Director+CEO)				
Changes	0.22%		3.21%**	
P-value	0.12		0.02	

NOTE: This table reports means for changes in various measures of director compensation and CEO compensation for weak shareholder rights companies and strong shareholder rights companies over year 2000 to 2004. All data are from *ExecuComp*. The *p*-value reports the significance of the difference between year 2000 and year 2004. All dollar values are in thousands. Total meeting fees assumes the director attended all board meetings. Total cash compensation is the sum of the total meeting fees and the annual retainer. Total equity compensation is the sum of value of the stock options granted and stock shares granted. Total compensation is the sum of total cash compensation and total equity compensation. The percentage of EBC is total equity compensation divided by total compensation. Dir/CEO is the ratio of director total compensation to CEO total compensation. Director/(Director+CEO) is the ratio of director compensation to the total of director and CEO compensation. Asterisks indicate significance at the 0.01 (***), 0.05 (**), and 0.10 (*) levels.

Table 2.5 SOX Effect on Weak Shareholder Rights Companies

	Determinants of DCC (Weak Shareholder Rights Companies)	Determinants of DTT (Weak Shareholder Rights Companies)	Determinants of the % of Director EBC (Weak Shareholder Rights Companies)
Constant	0.120***	0.106***	0.850***
	(11.99)	(13.81)	(10.78)
CEO Age	-0.000	-0.000	-0.003***
	(-0.76)	(-0.88)	(-2.95)
Market-to-Book	0.000	0.000	0.000
	(0.57)	(0.70)	(0.23)
Leverage	0.001	-0.001	-0.204***
	(-0.18)	(-0.09)	(-4.95)
Size	-0.016***	-0.014***	0.011
	(-12.50)	(-14.69)	(1.13)
G Index	-0.003***	-0.002***	-0.020***
	(-5.66)	(-6.28)	(-5.59)
% of Independent	0.002	0.004	0.114***
Directors	(0.39)	(0.98)	(2.63)
Director Ownership	0.003	0.003	-0.076**
	(0.70)	(0.90)	(-2.33)
CEO Duality	-0.005**	-0.004***	0.007
	(-1.98)	(-2.37)	(0.37)
CEO Ownership	-0.009	-0.005	0.125
	(-0.52)	(-0.40)	(0.89)
Soxdummy	0.002	0.002*	-0.003
	(1.30)	(1.64)	(-0.25)
Wald χ^2	257.30***	155.35***	81.39***
Observations	1,784	1,784	1,784

NOTE: This table reports results from random effects models. The dependent variables are the ratio of Director compensation to CEO compensation (DCC) and the ratio of Director compensation to the total compensation of director and CEO (DTT). The percentage of EBC is the total equity compensation divided by the total compensation. CEO duality dummy equals one if CEO is also the chairman. The market-to-book is the ratio of the firm's market value to its book value. Leverage is defined as total debt divided by total assets. Size is the natural log of total assets. SOX dummy equals one for post-Sox years (2002-2004). *T*-statistics are in parentheses. Asterisks indicate significance at the 0.01 (***), 0.05 (**), and 0.10 (*) levels.

Table 2.6 SOX Effect on Strong Shareholder Rights Companies

	Determinants of DCC (Strong Shareholder Rights Companies)	Determinants of DTT (Strong Shareholder Rights Companies)	Determinants of the % of Director EBC (Strong Shareholder Rights Companies)
Constant	0.080***	0.083***	0.784***
	(4.63)	(8.49)	(8.77)
CEO Age	0.000	0.000	-0.002**
	(0.54)	(0.20)	(-2.21)
Market-to-Book	-0.000	-0.000	0.002**
	(-0.26)	(-0.27)	(2.25)
Leverage	0.014	0.007	-0.068
	(1.48)	(1.35)	(-1.42)
Size	-0.018***	-0.016***	-0.028**
	(-8.21)	(-12.52)	(-2.46)
G Index	0.001	0.001	0.001
	(1.11)	(1.04)	(-0.06)
% of Independent	-0.003	-0.007	0.009
Directors	(-0.28)	(-1.15)	(0.18)
Director Ownership	-0.007*	-0.007	-0.115***
	(-1.66)	(-1.37)	(-2.61)
CEO Duality	-0.007	-0.006***	0.026
	(-1.66)	(-2.71)	(1.23)
CEO Ownership	0.005	0.005	0.056
	(0.16)	(0.28)	(0.34)
Soxdummy	0.008**	0.006***	0.034**
	(2.32)	(3.06)	(1.99)
Wald χ^2	89.89***	219.19***	35.58***
Observations	1,342	1,342	1,342

NOTE: This table reports results from random effects models. The dependent variables are the ratio of Director compensation to CEO compensation (DCC) and the ratio of Director compensation to the total compensation of director and CEO (DTT). The percentage of EBC is the total equity compensation divided by the total compensation. CEO duality dummy equals one if CEO is also the chairman. The market-to-book is the ratio of the firm's market value to its book value. Leverage is defined as total debt divided by total assets. Size is the natural log of total assets. SOX dummy equals one for post-Sox years (2002-2004). T-statistics are in parentheses. Asterisks indicate significance at the 0.01 (***), 0.05 (**), and 0.10 (*) levels.

CHAPTER 3 CEO COMPENSATION STRUCTURE AND ACQUIRER RETURNS

3.1 Introduction

Corporate Acquisitions is one of the important investment decisions made by managers, which reflects the effectiveness of corporate governance. CEOs may use this investment opportunity to exacerbate the conflicts of interests between managers and shareholders. CEO compensation contracts, especially equity-based compensation, are viewed as effective means to align managerial interests with those of shareholders. A series of studies in literature examine the relation between CEO compensation structure and corporate acquisition decisions (Jensen and Ruback, 1983; Shleifer and Vishny, 1988; Datta et.al, 2001). They find that CEO equity-based compensation is positively related to the acquirer returns.

However, a string of corporate scandals in 2000 and 2001 raised questions on the effectiveness of option grants and corporate governance in general. In response, Congress passed the Sarbanes-Oxley Act of 2002 (SOX) with the intention of improving corporate governance (Romano, 2005; Brown, 2006; Murray, 2006; Taylor, 2006). Efendi et al. (2007) argue that the passage of SOX is driven by the positive relation between CEO in-the-money options and financial statement manipulation. Banerjee, Gatchev and Noe (2008) document a significant decline in CEO option-based compensation after the corporate scandals.

Moreover, in December 2002, the Financial Accounting Standards Board (FASB) issued Financial Accounting Standards 148 (SFAS 148) to require public

firms to expense stock options by the fair value method instead of intrinsic value. A switch to the fair value method increases the estimated option value and leads to a decrease in reported earnings. Researchers in accounting (Aboody, Barth and Kasznik (2004), Schrand, Carter and Lynch (2003, 2005), Core and Guay (2003) and Carter, Lynch and Tuna (2007)) find that this new expensing rule has removed the accounting advantage of option-based compensation and made restricted stock more attractive to CEOs. Consistent with this, in July 2003, Microsoft CEO, Steve Ballmer, announced that Microsoft would stop paying option-based compensation and instead grant restricted stock compensation.

In general, the above new reforms in 2002 have led firms to reconsider the optimal CEO compensation structure or specifically the merits of option-based compensation. In this paper, I examine how firms change their equity incentive contracts after 2002 and whether this change affects acquisition decisions. To address this, I first examine the recent changes in CEO equity incentive contracts. I find that the proportion of restricted stock in CEO compensation significantly increases after the corporate reforms while the proportion of option compensation significantly decreases at the same time. The dramatic drop in CEO option compensation results in a significant decrease in total CEO equity compensation. Thus, the reforms do appear to lead to firms altering their compensation packages.

In addition, I consider the role that CEO power plays in the shift in CEO compensation. Given that CEOs have influence over their own compensation (Bebchuk et al. (2002) and Bebchuk and Fried (2003)) I explore whether firms with

strong managerial power are more likely to shift their compensation toward restricted stock after the new expensing rules. Graham, Harvey, and Rajgopal (2005) find executives believe that the market pays more attention to the cost of CEO option-based compensation since the expensing rule requires firms to moves the cost of stock options from footnotes to the income statement. Botosan and Plumlee (2001) find that option expensing significantly reduces firm reported earnings. Powerful CEOs are more likely to shift toward restricted stock to avoid the negative impact from expensing option-based compensation. I use the governance index identified by Gompers, Ishii and Metrick (2003) to proxy for the balance between the strength of shareholder rights and the power of managers. I find that the CEOs at firms with stronger managerial power are awarded more restricted stock after the new expensing rule.

Finally, I examine how the change in equity incentives affects the decision making of CEOs by looking at acquisition decisions. CEO restricted stock compensation is positively related to bidder returns after the recent changes in CEO equity compensation structure, while CEO stock options have no significant impact on the abnormal returns of the acquiring firm. This result is robust to controlling for deal-specific characteristics, firm-specific characteristics, CEO ownership, CEO power, governance index and board characteristics.

This study makes three valuable contributes to the literature. First, my paper extends the literature by examining the relation between executive compensation and acquirer returns. The traditional view is that there is a strong positive relation between

manager's equity-based compensation and bidder returns. However, since the corporate scandals around 2000 and 2001, CEO equity-based compensation structures have changed significantly. My results suggest that after recent corporate scandals restricted stock compensation is associated with better acquisitions, not option compensation or total equity-based compensation.

Second, I shed light on the discussion of the optimal structure of CEO compensation. Financial researchers and regulators have not reached a consensus on what the optimal structure of CEO compensation should be. The use of equity-based compensation seeks to minimize the agency costs that exist between management and shareholders. However, empirical evidence indicates that the CEO may increase non-value-maximizing behavior because he receives option-based compensation in excess of the level that would be optimal for shareholders. My paper provides evidence from the market for corporate control that supports increasing the use of restricted stock in CEO compensation packages.

Third, my paper contributes to the literature by examining the use of restricted stock in CEO compensation contracts. Many studies focus on option-based compensation (Core and Guay (2001), Ryan and Wiggins (2001), Yermack (1995), Smith and Watts (1992)). The recent option expensing rule provides a natural setting to explore the shift toward restricted stock and examine the effect of this change on CEO decisions.

The remainder of the paper is organized as follows. Section 2 develops the hypotheses for the study. Section 3 presents the empirical tests and results for changes

in CEO equity compensation. Section 4 describes the sample and data selection for firm acquisition decisions. Section 5 presents research methods for acquisitions. Section 6 reports the empirical acquisition findings. Section 7 concludes the main findings and offers implications for future study.

3.2 Hypothesis

Recently a series of important corporate reforms were enacted in response to the flurry of ensuing corporate scandals. For example, Congress passed SOX to restore investors' confidence in corporate governance in 2002. Pursuant to SOX, the NYSE and the NASDAQ required all the members on the compensation, nominating and auditing committee of listed firms to be independent directors. These new listing requirements decrease the executive option-based compensation (Chhaochharia and Grinstein (2009)). The new expensing rules by FASB in 2002 also reduce the use of option-based compensation and increase the use of restricted stock in CEO equity compensation (Carter, Lynch and Tuna (2007)). The above findings lead to my first hypothesis:

Hypothesis 1: The level of different sources of CEO equity compensation shifts overall after SOX and the 2002 expensing rule.

Hypothesis 1a: The proportion of restricted stock in CEO compensation should increase after SOX and the 2002 expensing rule.

Hypothesis 1b: The proportion of option-based compensation in CEO compensation should decrease after SOX and the 2002 expensing rule.

By not expensing in the 1990s, firms artificially lowered their personnel costs and thereby boosted profits. Core and Guay (1999), Matsunaga (1995) and Hall and Murphy (2002) find that the favorable accounting treatment of option-based compensation is attributed to the excessive use of options in CEO compensation. Recording option expenses in the income statement increases CEOs' concerns about the greater visibility of their compensation (Core, Guay, and Larcker (2003)). Because options are believed to haved contributed to the 2002 corporate scandals (Efendi, Srivastava and Swanson (2007)), CEOs are concerned that expensing options increases the market's perception about the cost of option-based compensation (Oyer and Schaefer (2005)). More importantly, option expensing removes the advantage of the favorable accounting treatment of option-based compensation and significantly reduces reported earnings (Botosan and Plumlee (2001)). A CEO's current and future private gains (such as bonuses) are often contingent upon reaching certain levels of earnings, making them less likely to support the rule change.

Bebchuk et al. (2002) and Bebchuk and Fried (2003) find that a CEO can use his or her power to influence the compensation package in favor of his or her interests. If a CEO has strong power to bargain his or her compensation, I expect that he or she is more likely to demand restricted stock since he or she perceives a greater personal loss from option-based compensation after the expensing rule.

Hypothesis 2: CEOs at firms with strong managerial power are more likely use more restricted stock after the new expensing rule.

In addition to looking at compensation shifts, I consider their effects on managerial decision-making. Mergers and acquisitions are important corporate investments that affect firm value. Managers' acquisition decisions may be biased by their self-interests at the expense of shareholders (Berle and Means (1933) and Jensen and Meckling (1976)). Previous studies have documented conflicts of interests between managers and shareholders during acquisitions. Jensen (1986) and Lang, Stulz, and Walkling (1991) find that managers in firms with higher free cash flows are more likely to indulge in empire-building acquisitions to extract their personal benefits than to maximize shareholder wealth. Morch, Shleifer, and Vishny (1990) also find supportive evidence that managers gain personal benefits from value-reducing acquisitions.

Fortunately, earlier studies also show that executive compensation contracts can mitigate the conflicts of interest between managers and shareholders in firm investment decisions. Clinch (1991), Smith and Watts (1992), Smith and Watts (1992), Baber, Janakiraman, and Kang (1996) and Murphy (1999) find that equity-based compensation can encourage executives to take more risky but value-enhancing investments. Jensen and Murphy (1990) and Mehran, Nogler, and Schwartz (1998) find that shareholder value increases with equity-based CEO pay. Bliss and Rosen (2001) find that CEO equity-based compensation can prevent banks from empire building. Datta, Iskandar-Datta, and Raman (2001) document strong evidence suggesting that equity-based compensation in executive pay increases shareholder value in acquisitions during the 1990s.

Such support for the merits of equity-based compensation may have contributed to the growth in the use of option-based compensation. Hall and Murphy (2003) and Jensen (2005) document a rapid increase in option grants in CEO compensation in the 1990s. However, SOX and the expensing rule ended the golden age of stock options. Although restricted stock and options both provide incentives to increase firm value, prior research related to restricted stock incentives alone is limited, perhaps because of the low proportion of restricted stock in equity compensation before the expensing rule. Compared to the dramatic explosion of stock options, CEO restricted stock awards on average account for less than 10% of equity incentives before 2001 (Feng and Tian (2007)). Therefore, it is interesting to examine whether the recent change in CEO equity compensation structure has an impact on the acquiring CEO's decision.

In order to explore the impact of the changing trends in CEO equity compensation on firm acquisitions, I examine the relation between different sources of CEO equity compensation and bidder returns. Datta et al. (2001) only examine the relation between option grants and bidder returns. Whether adding restricted stock grants can provide incentives for better acquisitions becomes an interesting question. Cai and Vijh (2007) argue that the larger the size of CEO equity holdings, the stronger the incentives provided by those holdings. Restricted stock may be viewed by executives as being closer to owning shares. Hodge, Rajgopal, and Shevlin (2008) even suggest that executives value stock options with a lottery ticket mentality rather than methods consistent with standard economic theory. Thus, I argue that the incentive effects of restricted stock paid to acquirer CEOs become stronger after 2002 if firms significantly pay more restricted stocks after the expensing rule. If firms being

to rely more on restricted stock to provide incentives after the new expensing rule, I expect to find supportive evidence from the market for corporate control.

Hypothesis 3: Restricted stock provides acquiring CEO with stronger incentives to make better (i.e, higher CAR) acquisitions after 2002 expensing rule.

3.3 Analysis of the Change in CEO Equity Compensation

3.3.1 Time trend of CEO equity compensation

Extending the research of Datta et.al (2001), I examine trends in the different components of CEO equity-based compensation after the 1990s. Table 1 presents the means and medians of the different sources of CEO compensation.[10]

Total CEO compensation includes cash compensation (bonus and salary), equity compensation (options and restricted stock) and other compensation. The average restricted stock-based CEO compensation increases from $0.46 million in 2000 to $1.09 million in 2004, while average CEO option holdings steadily decrease from 5.052 million in 2000 to 2.55 million in 2004. The average value of equity compensation also declines from $5.32 million in 2000 to $2.92 million in 2004, similar with the trend of option-based compensation. This result suggests much of the drop in CEO equity compensation is attributed to the decline in CEO option compensation.

Figure 1 shows the recent trends in the structure of CEO equity compensation. Figure 1 reports the average percentage of restricted stock versus option grants in CEO equity compensation. From figure 1, I note that the average percentage of

[10] Table 1 reports the inflation-adjusted compensation figures. All dollar values are adjusted to constant 2004 dollars using the CPI index.

restricted stock compensation in equity compensation dramatically increases after 2002. In contrast, the percentage of option compensation in equity compensation dramatically decreases after 2002. This result is consistent with the findings of Chhaochharia and Grinstein (2009). They find that SOX and its implementation rules affected CEO compensation decisions.

I also use the regression to explore the changes in CEO equity contract after SOX.

Proportion of restricted stock (options, EBC) = f (SOX, other control variables)

SOX is a dummy variable which equals one if the data is after year 2002, otherwise zero. The dependent variables are the natural logarithm of 1+ the percentage of CEO restricted stock compensation to total compensation, the natural logarithm of 1+ the percentage of CEO option-based compensation to total compensation and the natural logarithm of 1+ the percentage of equity-based compensation in CEO compensation, respectively.

Larger firms are more difficult to monitor and may need more equity-based incentives to align the CEO's interest with shareholders'. Jensen (1986) and Stulz (1990) suggest that high leverage may prevent managers from taking poor projects, which makes EBC less necessary. However, since equity compensation does not require cash outlay, firms would prefer to pay more restricted stock or option compensation other than cash compensation when the leverage is high (Yermack (1995)). Market-to-book ratio is use to control for the effects of growth opportunities. A firm with more growth opportunities is more likely to incur information asymmetry,

which increases the need for the use of EBC. The percentage of independent directors is included to capture the board independence. Ryan and Wiggins (2004) find that board independence is positively related to the use of equity compensation. Linck et al. (2006) and Boone et al. (2007) find that CEO ownership reduces board independence.

Table 2 reports the results[11]. I find that the proportion of restricted stock in CEO compensation is significantly higher after the passage of SOX as the Sox dummy variable is significantly positive. CEOs have significantly less option-based compensation after SOX. The Sox dummy is also significantly negative for CEO EBC level. This result suggests that overall CEO equity contracts shift from option-based compensation to restricted stock after 2002. This implies the restricted stock plays a more important role in providing CEO with incentives to maximize shareholder value after 2002.

3.3.2 Analysis of the change in restricted stock

To explore whether more powerful CEOs are more likely to use greater levels of restricted stock after the expensing rule, I analyze the determinants of the proportion of restricted stock in CEO compensation and the ratio of restricted stock to option-based compensation controlling firm- and governance- specific variables used in hypothesis 1 to explain the use of CEO equity incentives[12]. Table 3 reports the results.

[11] Using the same model, I also examine the changes in the percentage of restricted stock and option grants in CEO compensation over the passage of SOX. In the changes models, dependent and independent variables are yearly changes. However, the results are insignificant, which may be due to the changes in the percentage of restricted stock or options are noisy measurement including other information.

[12] Index is defined as governance index from Gompers et.al (2003). CEO compensation data come from ExecuComp database and firm-and governance-specific data are available in Compustat and IRRC database.

The proportion of restricted stock in CEO compensation at firms with strong managerial power is significantly higher after the passage of SOX as the interaction variable (index* SOX) is significantly positive. This result suggests that more powerful CEOs are more likely to receive more restricted stock in their compensation package after 2002. Firms with strong managerial power also pay more restricted stock relative to option-based compensation to their CEOs after 2002. These results are consistent with my expectation that powerful CEOs who are likely to be able to influence their compensation package, prefer restricted stock in their equity incentive contracts after the 2002 expensing rule. Since option-based compensation must be expensed, using restricted stock instead results in higher reported earnings, which may lead to higher future bonuses.

Other control variables are also consistent with prior studies. For example, firm size is statistically significant and positive in explaining the percentage of restricted stock. This suggests larger firms are more difficult to monitor and may need more equity-based incentives to align the CEO's interest with shareholders'. Leverage is significantly positively associated with the proportion of restricted stock in CEO compensation, which is consistent with literature that firms would prefer more restricted stock as a substitute for cash compensation when facing difficulties in borrowing (Hall and Murphy, 2002).

3.4 Sample and Summary Statistics for Acquisitions

I collect acquisition data from the Securities Data Corporation's (SDC) U.S. Mergers and Acquisitions database. I identify 1,268 acquisitions between January 1,

2000 to December 31, 2005. Following Datta, et.al (2001), I include transactions that meet the following criteria: (1) The acquisition is listed as completed. (2) The bidder has less than 50% of the target's shares prior to the announcement and controls 100% of the target's shares after the transaction. (3) The deal value is more than $1 million. (4) The acquirer has available financial statement information from Compustat and stock price and return data from the University of Chicago's Center for Research in Security Prices (CRSP). (5) The acquiring CEO compensation data is disclosed in Standard and Poor's ExecuComp database for the year prior to the acquisition date. (6) Corporate governance data are available in the Investor Responsibility Research Center's (IRRC) database.

Table 4 shows the summary statistics of the sample acquisitions by announcement year. The number of acquisitions drops off in 2002 and rebounds in 2004. I also report mean and median acquirer market value of equity, deal value and relative deal size. The acquirer market value of equity is measured 11 trading days before the announcement. The relative deal size is calculated as a ratio of deal value to bidder market value of equity. The deal value, the bidder market value of equity and the deal relative size drop in 2002 and peak around 2004.

3.5 Research Methods for Acquisitions

3.5.1 Variable constructions

I use acquirer return as my dependent variable, three incentive compensations as my key explanatory variables, and firm-, deal- and governance-specific characteristics as my control variables.

3.5.1.1 Acquirer Return

I measure acquirer returns by market model adjusted stock returns around initial acquisition announcements. I get the announcement dates from SDC's U.S. Mergers and Acquisitions database. Following Fuller, Netter, and Stegemoller (2002), I calculate 5-day cumulative abnormal returns (CARs) from the event window (-2, +2), where event day 0 is the acquisition announcement date. The CRSP equal-weighted return is used as the market return where the market model parameters is estimated over the 200-day period from event day -210 to event day -11.

3.5.1.2 Incentive Compensations

Total CEO compensation is calculated as the sum of salary, bonus, other annual compensation, value of restricted stock grants, value of stock options granted, long-term incentive payouts, and all other compensation paid to CEO. Total CEO cash compensation includes salary and bonus. I measure total CEO equity compensation by the sum of the value of stock options granted and the value of restricted stock. The percentage of equity-based compensation (EBC) is defined as total CEO equity compensation divided by total CEO compensation. ExecuComp reports data on cash and total CEO compensation including the value of stock options (using modified Black-Scholes method) and restricted stock grants. In order to fully capture the effects of CEO equity-based compensation and SOX, I interact the three equity incentives with SOX indicators to create the following three key explanatory variables: Rstk*SOX, Option*SOX and EBC*SOX. SOX is a binary variable that equals one if an acquisition deal is completed after 2002. Rstk is defined as the natural logarithm of 1+ the percentage of restricted stocks in a CEO's equity compensation.

Option is the natural logarithm of 1+ the percentage of stock option grants in a CEO's equity compensation. EBC is the natural logarithm of 1+ the percentage of a CEO's equity compensation in total compensation package.

3.5.1.3 Other Determinants of Bidder Returns

Firm Characteristics:

Moeller, Schlingemann, and Stulz (2004) find that the acquirer's firm size has a negatively relation with the cumulative abnormal returns (CAR). Their findings are consistent with Roll's (1986) managerial hubris hypothesis. They document that larger acquiring firms pay higher premiums which lead to higher acquisition costs and lower returns. The bidder size itself is also an effective takeover defense since it is more difficulty to acquire a larger firm than a small firm. The CEO of the larger firm is more likely to make unprofitable acquisitions since he or she is less subject to the market for corporate control. I use the log transformation of the acquirer's total assets (Compustat item 6) as the firm size in my regression test.

The relation between an acquirer's Tobin's q and CAR is not clear in literature. Moeller, Chlingemann, and Stulz (2004) find that the acquirer's Tobin's q has negative effect on the abnormal returns while Lang, Stulz, and Walking (1991) and Servaes (1991) find an opposite conclusion. I measure Tobin's q by the ratio of a acquirer's market value of assets to its book value of assets, where the market value of assets is defined as the book value of assets minus the book value of common equity (item 60) plus the market value of common equity (item 25 x item 199).

Prior researches find free cash flow (FCF) and leverage of the acquiring firm have an effect on CAR. Leverage helps reduce managers' non-value-maximizing investment since managers lose control to creditors when their firms fall into financial distress. I expect leverage is positively related to CAR in my empirical test. FCF is another important factor that influences the manager's investment behavior. However, FCF has an ambiguous effect on CAR. According to Jensen's (1986) free cash flow hypothesis, higher FCF encourages CEOs to engage in empire building. On the other hand, higher FCF also indicates better firm performance, implying higher quality managers who are more likely to make better acquisitions. Leverage is computed as a ratio of a firm's book value of long-term debt (item 9) and short-term debt (item 34) to its total assets. FCF is defined as a firm's operating income before depreciation (item 13) minus interest expense (item 15) minus income taxes (item 16) minus capital expenditures (item 128), scaled by book value of total assets.

Deal characteristics:

Following the existing literature, I include method of payment, relative deal size and target ownership status as control variables.

Asquith, Bruner, and Mullins (1983) and Moeller, Schlingemann, and Stulz (2004) find that the relative deal size is an important determinant of bidder returns. I compute the relative deal size as the ratio of the deal value to the bidder's market value of equity (from SDC). Consistent with the literature, I expect a positive relation between the relative deal size and bidder returns.

Previous studies have proven that the means of payment (cash or stock) is related to the shareholder wealth response to acquisitions. Travlos (1987), Amihud, Lev, and Travlos (1990), Servases (1991), and Brown and Ryngaert (1991) find a positive wealth effect of cash-financed acquisitions and a negative wealth effect of stock-financed acquisitions. I use two indicator variables to define the method of payment: cash and stock, where stock equals one for stock-financed deal and zero otherwise, and cash equals one for cash-financed deal and zero otherwise.

Fuller, Netter, and Stegemoller (2002) find that bidder announcement returns significantly increase when the acquisition targets are public firms while significantly decrease when the targets are private firms, since bidders get a liquidity discount when they acquirer private targets. I use two indicator variables to define the target ownership status: public target and private target. Public target is a dummy variable that equals one if the targets are public firms, zero otherwise. Private target is also a dummy variable that equals one if the targets are private firms, zero otherwise.

Governance Characteristics:

It is well known that CEOs at firms with better governance mechanisms are less likely to make the non-value-maximizing investment decisions. I include Governance index, director and CEO ownership, and CEO power proxies to control the difference in the effect of corporate governance on bidder returns. I obtain data on CEO and board of director ownership, the governance index and other governance characteristics from IRRC.

Gompers, Ishii and Metrick (2003) construct a "Governance Index" based on the incidence of antitakeover provisions to proxy for the balance of power between shareholders and managers. Firms with lower governance index are protected by less antitakeover provisions, and thus have weaker manager protections. Firms with higher governance index are protected by more antitakeover provisions, and thus have stronger manager protections. Masulis, Wang and Xie (2007) find that firms with higher governance index experience significantly lower abnormal returns around acquisition announcements while firms with lower governance index experience significantly higher abnormal returns. Their interpretation is that managers protected by more antitakeover provisions are less vulnerable to the market for corporate control. I expect the governance index is negatively related to bidder returns.

Prior work shows how important the board of directors monitors the managers in reducing agency costs. I control CEO duality, board independence and director and CEO ownership to capture a board function in corporate governance.

Byrd and Hickman (1992) find that board independence is positively correlated with acquisition announcement returns. Hermalin and Wesbach (1998) argue that independent boards are negatively associated with CEO power. Ryan and Wiggins (2004) use CEO duality as proxy for CEO power. They find that a CEO who also chairs the board exerts more influence on the board of directors and thus exacerbate the conflicts of interest between managers and shareholders.[13] IRRC

[13] In Ryan and Wiggins (2004), they cite previous literature to support the use of CEO duality as proxy for power. For example, Pi and Timme (1993) find CEO duality correlate negatively with ownership for commercial banks. However, Brickley et al. (1997) find CEO duality makes CEO hold more stock. Dayha et al. (2002) find CEO turnover increases and firm stock price performance improves after these firms separate CEOs and board chairs and also have at least three independent directors.

defines a director as independent if a director has no any affiliation with firms that he or she serves. This affiliation includes any family, financial, employment and business relationships with the firm. I create a dummy variable, CEO duality, that equals one if a CEO also chairs the board, zero otherwise. I expected the percentage of independent directors in the board is positively related to bidder returns and CEO duality is negatively related to bidder returns.

Lewellen, Loderer, and Rosenfeld (1985) find that acquisition abnormal returns increase in acquiring managers' ownership. Boone at el. (2007) also use outside directors' stock ownership to measure the constraints on the CEO's influence. They find that board independence is positively correlated to constraints on the CEO's influence. Therefore, I add CEO equity ownership and director equity ownership to my control variables.

Table 5 presents the summary statistics of the above control variables. The average firm size is $8.4 billion as the firms available in IRRC database are relatively large firms. The average leverage and Tobin's q of my sample are similar to those in Moeller, Schlingemann, and Stulz (2004).

3.6 Empirical Findings for Acquisitions:

3.6.1 Effects of incentive compensations on CARs

In Panel A of Table 6, I compare the differences in CEO incentive compensation and 5-day CARs before and after SOX. On average, the proportion of restricted stock after SOX is significantly higher than that before SOX. The average percentage of options after SOX is significantly lower than that before SOX. The

average EBC experiences the same significant drop after SOX as options. The average announcement abnormal returns after SOX are significantly higher than that before SOX.

The Panel B of Table 6 reports the difference in CARs between high and low levels of difference sources of CEO equity compensation. The high level portfolio is composed of bidders with CEO compensation above the sample median and the high level portfolio is composed of bidders with CEO compensation below or equal to sample median. On average, the high restricted stock firms experience significantly higher abnormal returns than the low level firms. The average bidder returns of high option compensation firms are not significantly different from that of low level option firms. The high and low EBC firms also show the same result as option portfolios. The above results support my previous hypothesis about the effects of different sources of CEO equity compensation on bidder returns. However, control variables may be important.

I employ cross-sectional regressions to examine whether the components of CEO equity-based compensation have different affects on bidder returns around acquisition announcements. The dependent variable is the 5-day CAR. I separately examine the effects of restricted stock, options and total equity-based compensation on the CARs and report regression results in Table 7.[14] The first column includes

[14] For robustness, I also try limited model specifications. First, I use a baseline model where the only controls are size and acquisition payment method. Second, I use the baseline model plus add controls for the firm- and deal-specific characteristics introduced earlier. The results are qualitatively similar to those reported using the complete model.

restricted stock and restricted Stock*SOX. The second column includes options and options*SOX. The third column uses EBC and EBC*SOX.

In the first column of Table 7, the coefficient estimate of Restricted Stock*SOX is 0.129 with a t-statistic of 2.22, indicating a significant positive relation between the acquiring CEO restricted stock compensation and the CARs after 2002. This result suggests that a CEO who receives more restricted stock is more likely to make better acquisitions after 2002. However, the coefficient estimates for Option*SOX and EBC*SOX are insignificant, suggesting they do not provide value-creating incentives to the acquiring CEOs to take value-enhancing deals after SOX. This result is consistent with my expectation that firms generally shift toward restricted stock to provide incentives to CEOs after the expensing rule by FASB. Most firms had relied primarily on options to provide equity incentives before (Lambert and Larcker (2004)). This finding sheds light on the evidence of a structural shift away from option incentives to restricted stock incentives after 2002[15].

The coefficient estimates of CEO restricted stock, stock options and total equity-based compensations are not significant over the sample period. The results may imply that the significant increase in CEO restricted stock after SOX has had a positive impact on bidder returns and the significant decrease in CEO option and total equity compensation at least do not hurt shareholders of acquiring firms in corporate acquisitions.

[15] I also use the yearly changes in the percentage of restricted stock and options as the key independent variables. However, the test results are not significant.

The control variables generally have the expected signs. I find public target is significantly negatively related to the acquirer's announcement-period CAR. This result suggests firms experience significantly lower abnormal returns when buying public firms, echoing the findings of Moeller, Schlingemann, and Stulz (2004). In the third column of Table 7, relative deal size is negative and marginally significant, which suggest that the acquirer's announcement returns decrease in relative deal size.

3.6.2 Robustness of Results

For a robustness check to my models, I use the variables in the regression without their natural logarithmic transformations.[16] I also regress tobit models on the same data.[17] The results are qualitatively similar to those reported. To further verify the effect on bidder returns, I compute the acquirer announcement returns over different event windows, like (0,+2), (-1,+1), (-1,0) and (0,+1), where event day 0 is the acquisition announcement date. The results remain qualitatively similar when I use the different CARs.

3.7 Conclusion

This paper examines trends in CEO equity compensation structure and the relation between compensation and acquirer returns around the passage of SOX. Following the 2002 corporate scandals, the excessive use of option compensation has been at the center of a heated debate among corporate reformers. Un-expensed options were believed to contribute to corporate accounting misreporting. SOX, its

[16] Using the proportion of CEO salary in total compensation as key explanatory variable, I find there is no significant relation between CEO salary level and bidder returns. I also run the regression with both restricted stock and options as control variables, the results are also qualitatively similar.

[17] I use tobit models to control for the nontrivial fraction of the firms that did not pay the restricted stock or options to their CEOs.

implementation rule adopted by NYSE and NASDQ, and the FASB expensing rule drove firms to reconsider optimal CEO compensation. The expensing rule especially increases the cost associated with option-based compensation. Therefore, I investigate whether CEO equity incentive contracts change after the above reforms and how important the recent shifts in CEO equity-based compensation structures are in influencing bidder returns.

I find that CEO equity-based compensation structure has shifted towards restricted stock after 2002. Firms, on average, significantly increase the use of restricted stock and decrease the use of option-based compensation after 2002. Firms with strong managerial power pay their CEOs more restricted stock and less option-based compensation than firms with weak managerial power. Larger firms are more likely to use restricted stock. Firms with more leverage also significantly increase the use of restricted stock.

I also find acquirers using more restricted stock-based compensation for CEOs after 2002 experience significantly higher bidder announcement stock returns. This result suggests that providing additional restricted stock incentives in CEO contracts might be advantageous in motivating CEOs to make better acquisitions after the expensing rule.

My study has important implications for understanding the recent changes in CEO equity contracts and the role of different incentives in acquiring CEOs' decisions. Dittmann and Maug (2007) argue that CEOs should have an optimal equity compensation package of no options and more restricted stock. This paper provides

strong support for this view from the market for corporate control and sheds new light on the notion that the optimal CEO equity incentive contract has changed.

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Figure 3.1 Trends in restricted stock and options for all firms

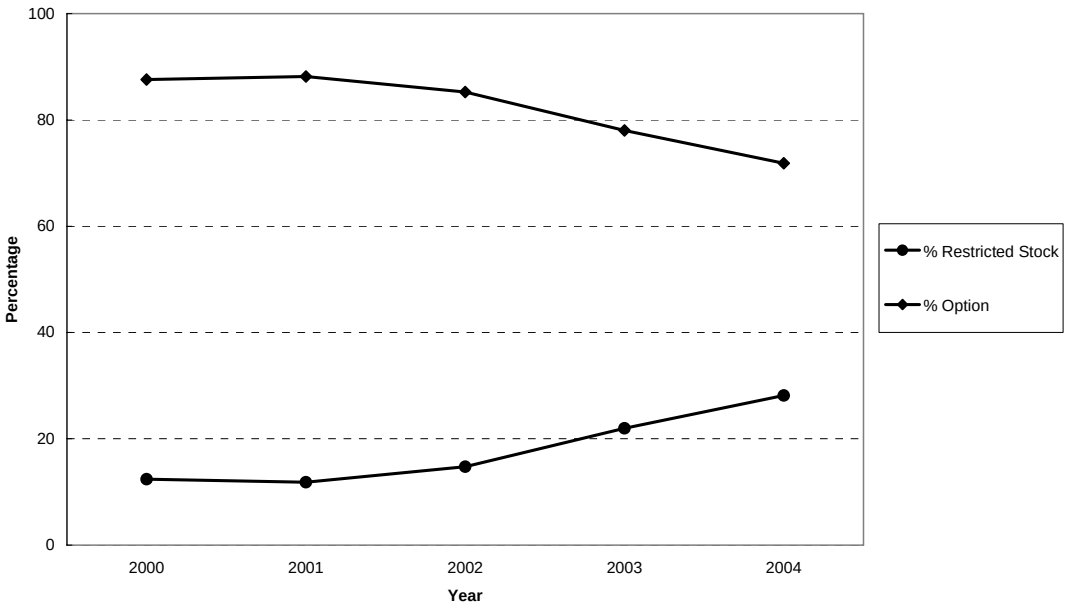

Table 3.1 Structure of CEO Compensation by Year

Year	2000	2001	2002	2003	2004
Observations	1,792	1,654	1,614	1,691	1,695
Restricted Stock					
Mean	458.92	468.7157	666.45	1005.28	1093.81
Median	0	0	0	0	0
Options					
Mean	5052.44	4076.59	3635.79	2417.40	2547.29
Median	1026.27	1001.06	1698.25	1223.14	1196.19
Total Equity Compensation					
Mean	5319.43	4848.16	4164.26	2579.21	2918.90
Median	1050.75	1248.04	1937.65	1026.35	1236.28
Total Compensation					
Mean	7332.81	6787.85	6132.39	4690.21	5204.09
Median	2680.48	2718.02	3563.26	2591.79	3016.70
Total Cash Compensation					
Mean	1470.21	1391.93	1530.69	1615.78	1767.23
Median	987.28	940.87	1112.83	1083.35	1228.38

NOTE: This table reports descriptive statistics on CEO compensation by year. All data are from *ExecuComp*. All dollar values are reported in thousands of constant 2004 dollars using the CPI index. Total equity compensation is the sum of value of the stock options granted and stock shares granted. Total compensation is the sum of total cash compensation and total equity compensation.

Table 3.2 Changes in CEO Equity Structure

	%Restricted Stock	%Option	%EBC
SOX	0.037***	-0.055***	-0.484***
	(8.21)	(-6.40)	(-6.05)
Size	0.032***	0.034***	0.452***
	(10.50)	(5.77)	(8.81)
Leverage	0.065***	-0.236***	-0.862***
	(5.02)	(-9.47)	(-10.41)
Market- to- book	0.000	0.000	-0.000
	(-0.46)	(0.38)	(-0.13)
Index	0.002**	-0.008***	-0.191***
	(2.03)	(-4.60)	(-8.50)
% of Independent	0.042***	0.104***	0.174
Directors	(3.17)	(4.12)	(1.41)
Wald χ^2	310.79***	164.25***	250.98***
Observations	4780	4780	4780

NOTE. - This table reports results from random effects models. The dependent variable is the percentage of restricted stock, options and total equity compensation to CEO compensation. The market-to-book is the ratio of the firm's market value to its book value. Leverage is defined as total debt divided by total assets. Size is the natural log of total assets. SOX dummy equals one for post-Sox years (2002-2004). *T*-statistics are in parentheses. Asterisks indicate significance at the 0.01 (***), 0.05 (**), and 0.10 (*) levels.

Table 3.3 Determinants of CEO restricted stock

	%Restricted Stock	(Restricted Stock)/Option
Size	0.029***	0.123
	(8.21)	(1.64)
Market-to-book	-0.000	-0.000
	(-0.54)	(-0.06)
Leverage	0.064***	0.075
	(4.78)	(0.24)
% of Independent	0.024*	-0.350
Directors	(1.72)	(-1.06)
CEO ownership	-0.001*	-0.004
	(-1.94)	(0.36)
Index	0.001	-0.011
	(-0.59)	(-0.52)
SOX	-0.004	-0.039
	(-0.22)	(-0.79)
Index*SOX	0.003**	0.014***
	(2.10)	(2.79)
Wald χ^2	310.79***	164.25***
Observations	4780	4780

NOTE. - This table reports results from random effects models. The dependent variables are the percentage of restricted stock and the ratio of restricted stock to options. The market-to-book is the ratio of the firm's market value to its book value. Leverage is defined as total debt divided by total assets. Size is the natural log of total assets. SOX dummy equals one for post-Sox years (2002-2004). *T*-statistics are in parentheses. Asterisks indicate significance at the 0.01 (***), 0.05 (**), and 0.10 (*) levels.

Table 3.4 Sample Distribution

Year	Number of Acquisitions	Percentage of Sample	Mean Deal Value ($mil) (Median)	Mean Acquirer Market Value of Equity ($mil) (Median)	Mean Relative Size (Median)
2000	199	15.7	505 (122)	14,733 (2,016)	0.18 (0.05)
2001	184	14.5	425 (118)	15,360 (2,236)	0.17 (0.05)
2002	203	16.0	547 (65)	12,976 (1,727)	0.09 (0.03)
2003	162	12.8	378 (88)	11,936 (2,695)	0.08 (0.03)
2004	232	18.3	376 (100)	14,081 (2,111)	0.12 (0.04)
2005	288	22.7	752 (90)	14,136 (2,630)	0.12 (0.03)
Total	1,268	100	519 (89)	13,783 (2,275)	0.12 (0.04)

NOTE: The sample consists of 1,268 completed U.S. mergers and acquisitions (listed in SDC) between 2000 and 2005 made by firms covered by the ExecuComp&IRRC database.

Table 3.5 Summary Statistics

	Mean	Median	St. Dev
Firm-Deal Characteristics			
Total assets ($mil)	8,467	1,280	28,599
Stock (dummy)	0.18	0.00	0.39
Tobin's q	2.53	1.78	2.49
Free Cash Flow	0.05	0.05	0.08
Leverage	0.22	0.21	0.17
Market-to-book	3.78	2.63	2.40
Relative deal size	0.12	0.04	0.36
Public target(dummy)	0.20	0.00	0.40
Private target(dummy)	0.40	0.00	0.48
Governance Characteristics			
Index	9.43	8.00	2.65
%of Independent directors	0.67	0.70	0.17
Director ownership	0.10	0.03	0.19
CEO Duality(dummy)	0.81	1.00	0.39
CEO ownership	0.02	0.01	0.06

NOTE: The sample consists of 1, 268 completed US mergers and acquisitions from SDC between 2000 and 2005 made by firms disclosed by the IRRC and Compustat database. Variable definitions are in section 4.

Table 3.6 Comparison between Different Portfolios

Panel A. Differences in CEO incentives and CARs before and after SOX

		Before SOX	After SOX	After-Before	t- Statistic
%Restricted Stock	Mean	6.329	12.646	6.318***	3.60
	Num. of Obs.	420	503		
%Options	Mean	53.811	47.670	-6.111**	-2.11
	Num. of Obs.	420	503		
%EBC	Mean	51.635	45.529	-6.107***	-2.88
	Num. of Obs.	420	503		
CARs	Mean	-0.264	0.626	0.009**	2.04
	Num. of Obs.	420	503		

Panel B. Differences in CARs between high and low portfolios

		High	Low	High - Low	t- Statistic
%Restricted Stock	Mean	0.034	--0.029	0.063***	17.11
	Num. of Obs.	461	462		
%Options	Mean	0.004	0.001	0.003	0.63
	Num. of Obs.	461	462		
%EBC	Mean	0.001	0.005	-0.004	-0.908
	Num. of Obs.	461	462		

NOTE. – CARs are the bidder cumulative abnormal returns over 5 days around announcement date. Low portfolios are defined as firms with the percentage of restricted stock, options and EBC is at or below the median, otherwise the firms are referred to high portfolios. T-statistic reports difference between means.

Table 3.7 Effects of CEO Incentives on Bidder Returns

	1	2	3
Restricted Stock	-0.068	-	-
	(-1.29)	-	-
Restricted	0.129**	-	-
Stock*SOX	(2.22)	-	-
Option	-	-0.003	-
	-	(-0.09)	-
Option*SOX	-	-0.030	-
	-	(-0.74)	-
EBC	-	-	-0.035
	-	-	(-0.94)
EBC*SOX	-	-	-0.028
	-	-	(-0.)
SOX	-0.002	0.010	0.008
	(-0.35)	(1.04)	(0.83)
Size	-0.003	-0.002	-0.003
	(-1.05)	(-0.86)	(-0.91)
Stock	-0.010	-0.008	-0.008
	(-1.24)	(-0.96)	(-0.90)
Tobin's q	-0.003	-0.003	-0.003
	(-1.10)	(-1.13)	(-1.10)
FCF	0.053	0.054	0.053
	(1.39)	(1.32)	(1.31)
Leverage	-0.009	-0.009	-0.007
	(-0.58)	(-0.61)	(-0.50)
Relative deal size	-0.005	-0.005	-0.005*
	(-1.50)	(-1.39)	(-1.70)
Public target	-0.017**	-0.018**	-0.016**
	(-2.53)	(-2.51)	(-2.41)
Private target	-0.002	-0.002	-0.002
	(-0.47)	(-0.44)	(-0.47)
Index	-0.001	-0.001	-0.001
	(-1.12)	(-0.93)	(-0.90)

	1	2	3
% of Independent Directors	-0.007 (-0.57)	-0.004 (-0.29)	-0.005 (-0.40)
CEO Duality	0.000 (0.08)	0.000 (0.00)	0.000 (0.04)
CEO Ownership	0.000 (1.08)	0.000 (0.97)	0.000 (1.00)
Intercept	0.036** (2.31)	0.034** (1.99)	0.033* (1.94)
Adjusted- R^2	4.87%	4.36%	4.37%
Observations	923	923	923

NOTE. - This table reports results from cross-section models. The dependent variable is the bidder cumulative abnormal returns over 5 days around announcement date. Variable definitions are in section 3. *T*-statistics are in parentheses. Asterisks indicate significance at the 0.01 (***), 0.05 (**), and 0.10 (*) levels.

CHAPTER 4 CONCLUSION

I find that directors, relative to the CEO, receive more compensation after the improvement in the monitoring role of directors caused by Sarbanes-Oxley. It implies that directors have greater bargaining power over the CEO when SOX and the accompanying changes in the exchange rules impose stricter requirements on the internal controls of the boards of directors.

I seek to investigate the importance of the CEO equity-based compensation structure after SOX in influencing bidder returns. Focusing on corporate acquisition decisions, I find acquirers paying more restricted stock compensation to their CEOs after SOX experience significant higher bidder announcement stock returns. This result is robust to controlling for firm-, deal-and governance-specific characteristics.